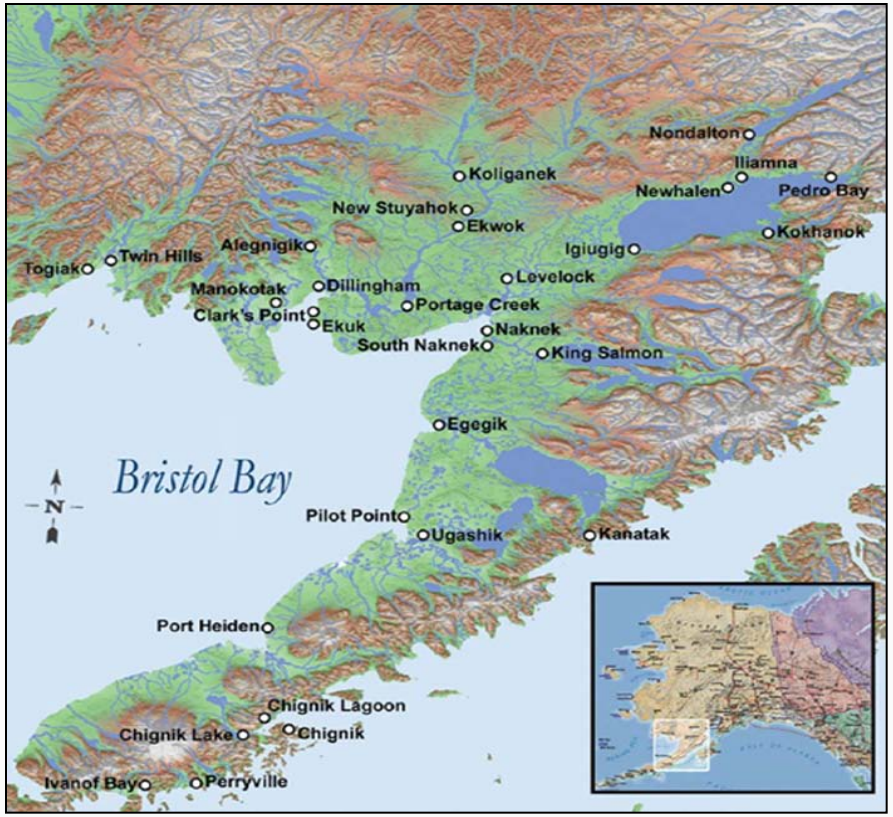
EPA Bristol Bay Draft Watershed Assessment

Photo courtesy of Thomas P. Quinn, University of Washington

In this Presentation We Will ....

- Introduce the draft assessment.
- Review the contents of the assessment.
- Let you know how you can provide input on the draft assessment.
- Talk about next steps



Why is EPA Doing an Assessment?

- Assessment will provide EPA with needed information to make future decisions.
- Under the Clean Water Act, EPA is responsible for water quality.

The Draft Assessment is :

- **NOT** a regulatory decision
- **NOT** an assessment of ALL potential impacts from development.
- **NOT** a field investigation.
- **INTENDED** to provide information for decision-makers.

Scope of the Assessment:

- Potential impacts from large-scale mining…
- on salmon….
- and salmon-related impacts on wildlife and Alaska Native culture.

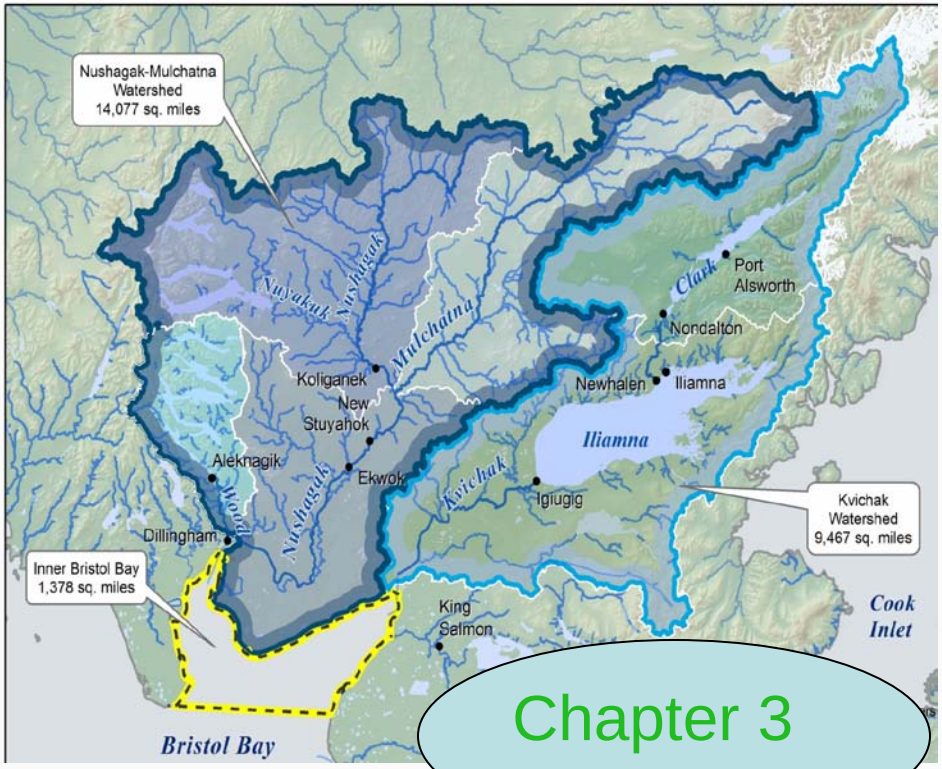
Chapter 3

Assessment Area and Time Frame

- **TIME FRAME:**
  - –Development and operation of the mine (25 – 100 years)
  - –Post-mining: would need to be monitored and managed forever

AREA:

Nushagak and Kvichak Watersheds



Chapter 3

What Information Was Used?

- EPA collected existing information about fish, wildlife, indigenous cultures, fishery economics, marine resources, and mineral resources.
- The only new information collected was interviews with 53 Tribal Elders in seven villages.
- EPA used some information from the Pebble Limited Partnership.
- All sources are identified in the report.

Assessment Approach

- Collected information about watersheds. Chapter 2 and Appendices

- Described elements of large-scale mine (mine scenario). Chapter 4

- Looked at possible effects from large-scale mining in these watersheds. Chapters 5-8

Hypothetical Mine Scenario

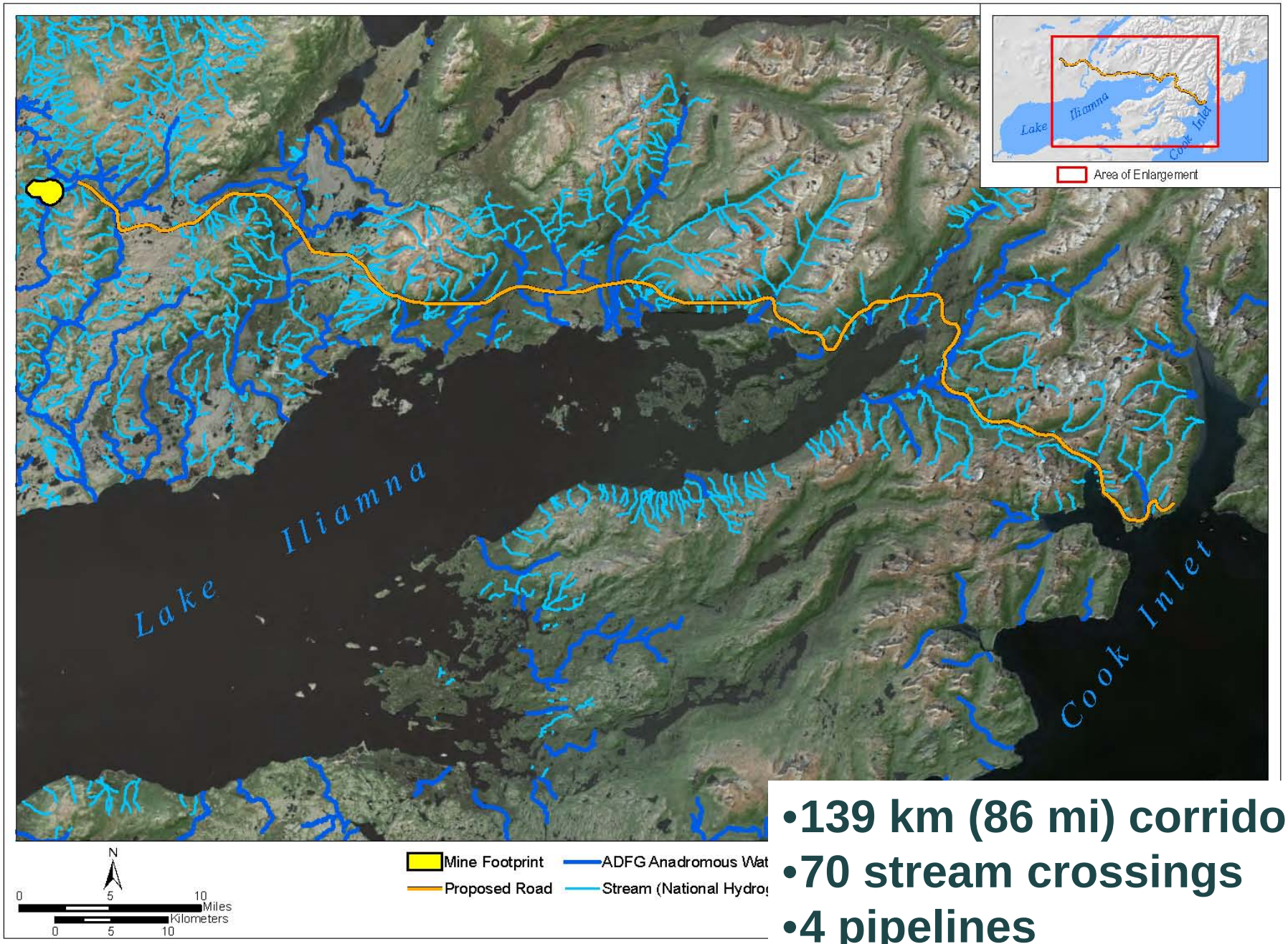
- Based in available information and knowledge about mining.

Chapter 4

- At Pebble location.

- Two scenarios – minimum and maximum.

- Included:
  - Open pit mine
  - Waste rock pile
  - Tailings storage facilities



- 139 km (86 mi) corridor
- 70 stream crossings
- 4 pipelines

Draft Assessment Considered …..

A mine with no engineering failures or operational accidents anytime during or after operation.

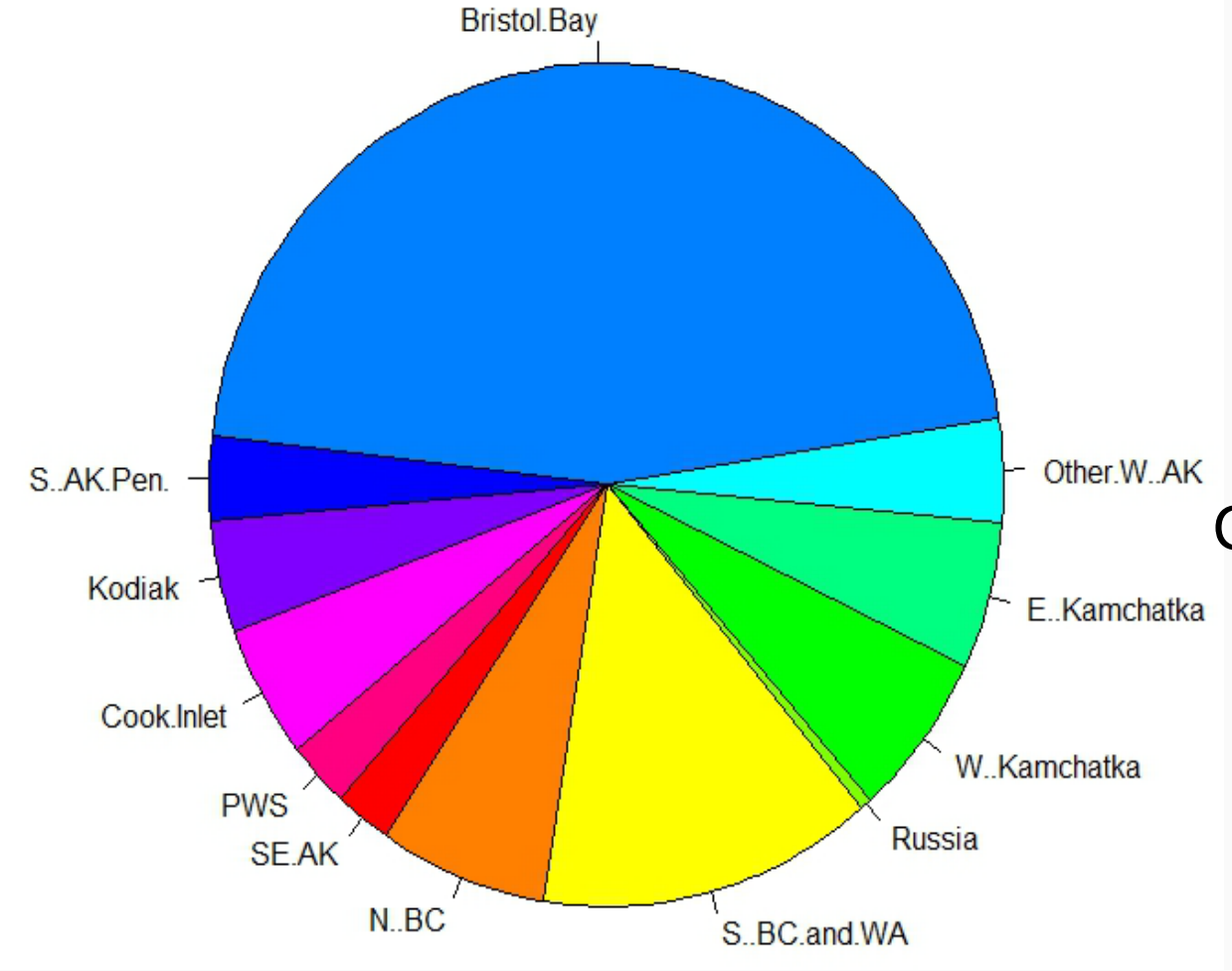
Chapter 5

Possible common failures related to mining operations and storage of waste during and after mining operations.

Chapter 6

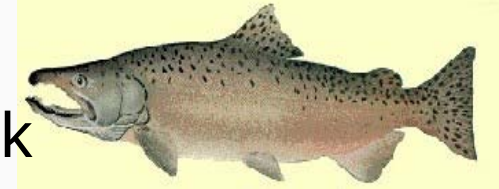
Fishery is Unequaled in World

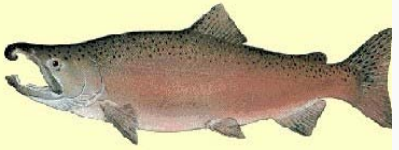
Bristol Bay produces almost half of the world's sockeye salmon.

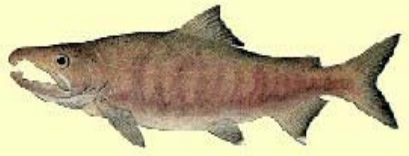


Appendix A

Sockeye 

Chinook 

Coho 

Chum 

Pink 

Why does Bristol Bay produce so many salmon?

- Climate, topography and geology provide diverse habitat.
- Close connection between surface water and groundwater.
- Limited human development/impact.

Economic Importance of Fishery

Commercial Fishery

- Value: Nearly $300 million in 2009
- Full/part-time jobs: over 11,500

Sport Fishery

- Annual spending on fishing: $60 million/year
- Full/part time jobs: over 850

Subsistence

- Mixed subsistence/cash economy
- Purchased subsistence supplies of $6 million/year

Appendix E

Indigenous Cultures

One of the last intact, sustainable salmon-based cultures in the world.

Salmon and other wild foods have been valued and protected for over 4,000 years.

Salmon are nutritionally, socially, spiritually, and culturally integral to the Alaska Natives in the Bristol Bay Watershed.

Appendix D

Subsistence Resources

- 98% of households use and share wild foods.
- Residents get 80% of their protein from subsistence.
- Salmon account for 52% of subsistence harvest.

Appendix D

Risks – No Failures

Assuming no failures, a single large mine is likely to have the following effects:

- Loss of tens of miles of stream habitats and thousands of acres of wetlands due to mine pit, waste rock, and tailings storage facilities.

- Loss of additional stream habitat downstream of mine site is likely due to changes in hydrology.

- Loss of stream and wetland habitats will adversely impact local fish populations, alter wildlife, and impact subsistence hunting.

Chapter 5

Risks From Failures

- Some type of failure is likely during the life of the mine and during the centuries-long post closure period.

- Potential failures we evaluated:
  - Leakage of acidic drainage and other contaminated waters from the waste rock, pit walls and tailings to surface water and groundwater. (Likely)
  - Failures of road culverts that block streams supporting anadromous fish. (Likely)
  - Pipeline failures that release toxic slurry. (Likely)
  - Failures of tailings dams. (Low annual probability)

Chapter 6

Risks from Multiple Mines

- Draft assessment considers development of mines at several different mineral deposits.

- Risks are similar to a mine at the Pebble deposit.

Chapter 7

What Next?

Independent Scientific Peer Review Panel

- You can provide input on the questions we ask the panel.

- The panel will meet in August and there will be opportunities to comment directly to the panel.

Photo courtesy of Thomas Quinn, Univ of Washington

How to Submit Comments

Preferred method: Submit them online at regulations.gov Follow the online instructions for submitting comments to Docket # EPA-HQ-ORD-2012-0276.

Spoken comments will be accepted at our public meetings in Alaska.

For information on other options, visit www.epa.gov/bristolbay

Want to learn more? Check www.epa.gov/BristolBay for information on webinars

We Value Your Input

- What needs to be changed to make the assessment more accurate?
- What information needs to be added to make the draft watershed assessment more complete?
- What are your observations or conclusions after reviewing the draft assessment?

It is important for us to hear many perspectives in order to make informed decisions